

## **Abstract**

**Title:** Effect of deep stabilization system on the musculoskeletal system

**Objectives:** The aim of the study is to demonstrate the influence of therapeutic interventions on the deep stabilization system using investigative techniques and principles used in practice in physiotherapy.

**Methods:** This thesis has been characterized as a case study. It is based on an experimental basis in the form of qualitative research. For the research five clients were chosen with problems in the cervical, thoracic and lumbar spine. Applying exercise procedures was to show a positive effect on the deep stabilizing system. Following investigative methods were used: anamnesis, examination of static orientation, trigonometric spine examination, assessment of posture, postural stability testing, palpation, flexion of the neck stereotype by Lewit and "S" reflex. Testing was performed twice, at intervals of 3-4 months.

**Results:** The results showed significant improvement in four out of five clients. Pain, stiffness or paraesthesia cervical, thoracic or lumbar spine alleviated or even disappeared. Postural muscle activation possession and corset improved. Exercises also positively influenced the stereotype of breathing and it was confirmed that an active cooperation of clients is necessary for the most efficient effect of the influence of special exercises for deep stabilization system.

**Keywords:** Vertebral column, deep stabilizing system of the spine, vertebral disorders, poor posture, targeted physical activity.